



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

**AUG 9 2001**

DOT-E 11667  
(THIRD REVISION)

EXPIRATION DATE: June 30, 2003

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Weldship Corporation  
Bethlehem, PA
2. PURPOSE AND LIMITATION:
  - a. This exemption authorizes the transportation in commerce of certain Division gases in DOT 3AA, 3AAX and 3T cylinders that have been retested by means other than the hydrostatic retest required in § 173.34(e). This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.34(e): the introductory paragraph, the Table, and paragraphs (1), (3), (4), and (6); and §§ 173.302(c)(2), (3), and (4) in that an acoustic emission test is performed in place of the hydrostatic test and the internal visual inspection.
5. BASIS: This exemption is based on the application of Weldship Corporation dated June 6, 2001, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

AUG 9 2001

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Liquefied or nonliquefied compressed gases, or mixtures of such compressed gases, classed as Division 2.1, Division 2.2, or Division 2.3 which are authorized for transportation in DOT 3AA, 3AAX and 3T cylinders.	As Appro- priate	As Appro- priate	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are DOT 3AA, 3AAX or 3T cylinders, mounted on a tube trailer vehicle chassis, a tube module equipped with an ISO frame, in cradles or in a disassembled position. The cylinder must have a minimum wall thickness of not less than 0.400 inch. In lieu of the hydrostatic test and internal visual inspection prescribed in § 173.34(e), each cylinder must be examined by acoustic emission test and, as required, by ultrasonic test. Each cylinder must be retested and marked in accordance with the procedures specified in the Weldship Corporation application for exemption on file with the Office of Exemptions and Approvals (OHMEA) and as prescribed in this exemption.

b. TESTING - The signal processor threshold level must be set at not greater than 32 dB. Each acoustic emission (AE) site on the cylindrical portion of each tube which produces five or more valid events within an 8 inch axial distance must be subjected to an ultrasonic inspection. Each AE site on tube ends (i.e. sections of the tube which lie outboard of the sensors) which produces five or more events which hit both sensors and which had 43dB or greater peak amplitude at the "first hit" sensor, must be subjected to an ultrasonic inspection. Recording of AE data must start when tube pressure reaches the lesser of 1,000 psig or 60 percent of normal fill pressure, and end when cylinder pressure reaches the greater of 110 percent of either the marked service pressure or allowable fill pressure.

c. PERSONNEL QUALIFICATIONS - Each person who performs retesting in accordance with the acoustic emission and

ultrasonic test procedures authorized by this exemption must be a "qualified tester". The term "qualified tester" used in this exemption means a person who meets either paragraph 7.c.(1) or 7.c.(2) of this exemption.

(1) A person who holds an engineering degree from an accredited college or university and has at least:

(i) Five (5) years continuous experience in: (A) the design, fabrication, maintenance, testing and inspection of DOT specification cylinders or of pressure vessels; (B) metallurgy; or (C) non-destructive testing of pressure vessels, or any combination thereof; and

(ii) Fifty (50) hours of experience in AE testing of pressure vessels or DOT specification cylinders; and

(iii) 20 hours of experience in ultrasonic testing in accordance with the method specified in ASTM A-388-67.

(2) A person who performs such testing under the general supervision of one qualified under paragraph c (1) above (whether or not at the same location). Such person must have:

(i) (A) at least 5 years continuous experience of a technical nature involving DOT specification cylinders or pressure vessels; or (B) successfully completed at least 10 semester hours of a scientific or technical curriculum and has at least 2 years continuous experience of the same technical nature; and (ii) received at least (A) 40 hours of training or instruction in AE testing of pressure vessels or DOT specification cylinders and must have at least 80 hours of experience in such testing under the personal supervision of a person qualified under paragraph c (1) above; (B) 40 hours of training or instruction in ultrasonic testing; and (C) 10 additional hours of experience in such testing under the direct, personal supervision of a person qualified under paragraph c (1) above.

AUG 9 2001

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modifications or changes are made to the package and it is reoffered for transportation in conformance with this exemption and the HMR.

b. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

c. Cylinders retested in accordance with paragraph 7 above may be charged to 110 percent of marked service pressure in accordance with § 173.302(c).

d. A statement of qualifications, for each "qualified tester" used under this exemption and information in support thereof, shall be maintained by Weldship. The location of this statement, for each "qualified tester", must be identified to the OHMEA.

e. Transportation of Division 2.1 (flammable gases) and Division 2.3 (gases which are poisonous by inhalation) are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).

f. Transportation of oxygen is only authorized when in accordance with § 172.102(c)(2) Special Provision A52 and §§ 175.85(h) and (i).

g. MARKING -

(1) The exterior of the trailer cabinet of the vehicle chassis to which the cylinders are affixed must be marked with letters at least 2 inches high on a contrasting background "DOT-E 11667".

(2) An exterior tube on each side of a tube module must be marked with letters at least 2 inches high on a contrasting background "DOT-E 11667".

(3) The current retest date must be marked on the rear bulkhead inside the trailer cabinet at approximately eye level above the withdrawal valve for tube trailers and on the bulkhead near the withdrawal valve for tube modules. In the event retest dates of cylinders differ

AUG 9 2001

in a trailer cluster, the retest date displayed will be that of the oldest retest date, meaning the date of the retest that must occur first.

(4) Each DOT 3AA cylinder that is in a cradles must be marked in letters at least 2 inches high on a contrasting background "DOT-E 11667" and with the retest date.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo vessel.
10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel or motor vehicle used to transport packages covered by this exemption.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
  - o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS:

The following information must be reported to OHMEA:

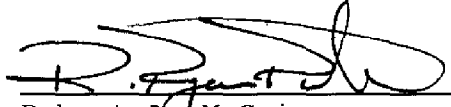
- a. The name of each person qualified to conduct testing under Paragraph 7.c., before use as a "qualified tester".
- b. Location of each facility where testing under this exemption is conducted.

c. A report on the first test and a report each 6 months thereafter indicating the number of cylinders tested under this exemption and identification by serial number of those passing and those failing to pass the test authorized by this exemption. Specifically, each report must include at least the following information:

- (1) DOT specification number.
- (2) Maximum allowable filling pressure.
- (3) Minimum prescribed sidewall.
- (4) Number of events at each location.
- (5) Pressure associated with each event.
- (6) Description of each AE event (amplitude, duration, energy, etc.)
- (7) Size of each defect measured (length and depth).
- (8) Type of each defect measured (crack, pitting, etc.).
- (9) Defect location relative to each sensor.
- (10) Defect location relative to sidewall (interior, outer surface, inner surface).

d. The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (49 CFR 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

  
For Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

AUG 9 2001

(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Continuation of DOT-E 11667 (3rd Rev.)

AUG 9 2001

Page 7

Copies of exemptions may be obtained from the AAHMS, U.S.  
Department of Transportation, 400 7th Street, S.W., Washington,  
DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: CWF/KFW